REMARKS

I. Status of the Claims

Claims 1-8 and 14-22 are pending.

II. Claim Rejections under 35 U.S.C. §§ 102 and 103

Claims 1-8 and 14-22 have been rejected under 35 U.S.C. §§ 102 and 103 as allegedly anticipated, or in the alternative, allegedly obvious over, French Patent No. 2,201,083 ("the French '083 patent"). Office Action at 3. According to the Examiner, the '083 French patent allegedly anticipates those compounds of the present claims in which A^2 is a 1,3-diazine group. *Id.* The Examiner asserts that "simple homologs and analogues of the specific compounds of the reference" would be obvious to prepare as well. *Id.* Finally, the Examiner alleges that vasodilator and analgesic activities are also taught. Applicants respectfully disagree with these rejections.

A. The French '083 Patent Does Not Anticipate the Claimed Invention.

The French '083 patent does not anticipate Applicants' claims at least because Applicants' radical A^2 is not described therein. " 'A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' " M.P.E.P. § 2131 (quoting *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.,* 814 F.2d 628, 631, 2 U.S.P.Q.2d (BNA) 1051, 1053 (Fed. Cir. 1987)).

In the formula I set forth in present claim 1, the radical A^2 bonds to two sulfur-containing radicals. These sulfur-containing radicals bond to adjacent carbons of A^2. The formula I indicates these carbons are adjacent to each other by showing a straight

line between them. In contrast, Example V of the French '083 patent attaches sulfur-containing radicals to carbons of a 1,3-diazine ring, which carbons are separated at least by a nitrogen atom. *See* French '083 patent at 6. Moreover, the French '083 patent does not describe any radicals bound on adjacent carbons of the central 1,3-diazine ring. *Id.* at 1 (general formula (I)). Accordingly, the French '083 patent does not describe, and therefore does not anticipate, Applicants' claims. The anticipation rejection should therefore be withdrawn.

B. The French '083 Patent Does Not Render the Claimed Invention Obvious.

The French '083 patent does not render obvious Applicants' claimed invention, at least because the patent does not teach or suggest Applicants' A^2 radical. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the alleged prior art reference (or references when combined) must teach or suggest all of the claim limitations. M.P.E.P. § 2143.

As explained above, Applicants' A^2 radical bonds two sulfur-containing radicals on adjacent carbon atoms. In contrast, any sulfur-containing radicals taught in the French '083 patent do not bond to adjacent carbons on the central 1,3-diazine ring. To modify the teaching of the French '083 patent, the ordinarily skilled artisan would have to imagine replacing a ring nitrogen with a carbon atom, and bonding a sulfur-containing radical to the new carbon atom. This drastic modification goes far beyond making a mere homolog or analogue of the compound of Example V of the French '083 patent.

See M.P.E.P. § 2144.09 (discussing obviousness of homologs, analogs, and isomers). Accordingly, the French '083 patent does not teach or suggest Applicants' A^2 radical, and so does not render the claimed invention obvious. The obviousness rejection should therefore be withdrawn.

III. Possible Interference Proceedings against the Lloyd Patents

The Examiner has identified U.S. Patent No. 6,150,356 and its divisional, U.S. Patent No. 6,511,977 B1 (collectively "the Lloyd patents") as allegedly disclosing and claiming subject matter within the scope of the present claims, although the Lloyd patents have an effective filing date later than Applicants' effective filing date. Office Action at 3. According to the Examiner, "[d]ifferentiation thereover [over the Lloyd Patents] therefore is necessary to avoid possible interference proceedings." *Id.*

Applicants respectfully contend that the Lloyd patents do not disclose the "same patentable invention" as claimed by Applicants. Accordingly, no interference should be declared. An interference may be declared when an application and an unexpired patent naming different inventors "contain claims for the same patentable invention." 37 C.F.R. § 1.601(i). Furthermore,

> Invention "A" is the *same patentable invention* as an invention "B" when invention "A" is the same as (35 U.S.C. 102) or is obvious (35 U.S.C. 103) in view of invention "B" assuming invention "B" is prior art with respect to invention "A". Invention "A" is a *separate patentable invention* with respect to invention "B" when invention "A" is new (35 U.S.C. 102) and non-obvious (35 U.S.C. 103) in view of invention "B" assuming invention "B" is prior art with respect to invention "A".

37 C.F.R. § 1.601(n) (emphasis in original).

A. The Lloyd Compounds Differ from Applicants' under 35 U.S.C. § 102.

The Lloyd patents disclose compounds that would not anticipate Applicants' compounds. For example, the formula appearing in Lloyd's abstract shows a radical $-X^2-R^2$. To "anticipate" Applicants' claimed compounds, the Lloyd patent must describe this radical to have the same substituents as Applicants' radical $-C(=X)-NH-A^1-S(O)_n-R^1$. Choosing the substituents on Lloyd's radical to imitate Applicants' radical as closely as possible, Lloyd's X^2 is a single bond, and Lloyd's R^2 is $-\underline{\mathbf{CH_2}}-C(=O)-N-R^{10}R^{11}$. *See* '356 patent at col. 2, l. 30 (emphasis added). Applicants' radical lacks the CH_2 group present in Lloyd's radical. At least because the Lloyd patent does not describe Applicants' radical as set forth in the pending claims, the Lloyd patent does not describe the "same" invention within the meaning of 35 U.S.C. § 102.

B. The Lloyd Patents Would Not Render the Present Claims Obvious.

The Lloyd patents would not render the present claims obvious at least because the Lloyd patents do not teach or suggest all of the substituents of the claimed compounds. As described above, choosing substituents for Lloyd's radical to imitate as closely as possible Applicants' radical reveals an extra CH_2 group. As we proceed with the comparison, other discrepancies between Lloyd's and Applicants' compounds reveal themselves.

One of Lloyd's substituents R^{10} and R^{11} must read on Applicants' substituents $A^1-S(O)_n-R^1$. It does not. Independently, R^{10} and R^{11} can be "H, alkyl, arylalkyl or cycloalkyl, or R^{10} and R^{11} can be taken together with the nitrogen to which they are attached to form a 5-to 8-membered ring." '356 patent at col. 2, ll. 33-36. The closest substituent is arylalkyl, which term "refers to alkyl groups . . . having an aryl substituent."

Id. at col. 5, ll. 28-30. That is, the alkyl portion of R^{10} or R^{11} anchors to the nitrogen, separating the aryl portion from the nitrogen. Accordingly, Lloyd's radical having substituents most like Applicants' radical would have the structure: -**CH_2**-C(=O)-NH-**alkyl**-aryl. A casual inspection of Applicants' radical, $-C(=X)-NH-A^1-S(O)_n-R^1$, reveals that the Lloyd patents teach at least two extra moieties that are shown with emphasis in the preceding sentence. Accordingly, the Lloyd patents, if they were prior art, would not teach or suggest Applicants' claimed invention, and so would not render Applicants' claimed invention obvious within the meaning of 35 U.S.C. § 103.

The test for interfering subject matter is a two-way test. *Eli Lilly & Co. v. Bd. of Regents Univ. Wash.*, 334 F.3d 1264, 67 U.S.P.Q.2d 1161 (Fed. Cir. 2003). For the reasons given above, the present application does not anticipate nor render obvious Lloyd's patent claims.

At least for these reasons, the Lloyd patents do not describe or claim the same patentable invention as Applicants' claims. Applicants respectfully request that no interference be declared between the present application and Lloyd's patents or applications.

CONCLUSION

Applicants respectfully contend that the pending claims are in condition for allowance, and request an early and favorable Office Action on the merits.

A Petition for Extension (Two Months) and fee therefor accompany this Response. Please grant any extensions of time required to enter this Response and

charge any fees required under 37 C.F.R. §§ 1.16 or 1.17 to our Deposit Account No. 06-0916. If the Examiner has any questions, he is invited to contact the undersigned at telephone number (202) 408-4331.

Respectfully submitted,

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